REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-10 and 12-29 are presently active in this case. The present amendment amends Claims 1, 12, and 21 and cancels Claims 11 and 30 without prejudice or disclaimer. The changes to the claims are supported by the originally filed application and do not introduce new matter. For example, amended Claim 1 is supported at least by the present specification at page 3, lines 12-17 and Figure 3.

In the outstanding Office Action, the specification is objected to; and Claims 1-30 were rejected under 35 U.S.C. §103(a) as unpatentable over Pages (U.S. Patent No. 5,774,818) in view of Leslie at al. (U.S. Patent No. 4,750,127, hereinafter "Leslie") and further in view of Trikha (U.S. Patent No. 6,003,811).

The specification is amended to correct an informality. The amendment to the specification is supported at least by Figure 3. No new matter is added.

The outstanding rejection is respectfully traversed.

The inventors of the invention recited in Claim 1 solved the problem in operating an aircraft where operating commands are generated for an autopilot and for manual operation by two different computers. This configuration creates redundant processing, both sets of which need to be developed and validated during production of the aircraft. Further, the use of redundant processing adds delays to the critical path processing for the autopilot. Thus, actuator commands are stale by the time they are received by the actuators, leading to less accurate guidance of the aircraft.

To solve this problem, the present inventors created a flight control computer that receives control instructions from the pilot's manual controls ***and*** automatic pilot instructions from a navigation computer. The flight control computer calculates operating commands to

be sent to the actuators during both manual and autopilot modes, based on the control instructions or the automatic pilot instructions, respectively. Further, the navigation computer sends the automatic pilot instructions from the navigation computer over a dedicated communication link, minimizing the time needed to send this information and thus minimizing the time for the critical path processing. By sending the automatic pilot instructions over a dedicated link, the operating commands are sent to the actuators with a minimum of delay, leading to more accurate control of the aircraft.

Accordingly, amended Claim 1 recites in part, "a dedicated communication link configured to transmit the automatic pilot instructions from the navigation computer to the flight control computer."

The outstanding Office Action cited computer 12 as "a navigation computer" and automatic piloting device 13 as "a flight control computer." However, the automatic piloting device 13 of Pages receives ***navigational information*** from computer 12 and instruments 15, not automatic piloting instructions.[1] (Exemplary automatic piloting instructions are recited in Claims 7-9, such as a commanded vertical load factor, a commanded roll rate, and/or a commanded yaw.) Automatic piloting device 13 of Pages then takes the navigation information and computes actuator commands that are sent to actuators 14. Accordingly, the device described in Pages does not transmit ***automatic piloting instructions*** from one computer to another computer. Thus, Pages does not describe "a flight control computer" or "a navigation computer" as recited in Claim 1. Further, Pages does not teach or suggest "a dedicated communication link configured to transmit the automatic pilot instructions from the navigation computer to the flight control computer" as recited in amended Claim 1.

Leslie describes an energy compensation means for eliminating throttle activity during descent of an aircraft. Leslie describes that flight management computer system 12

[1]See Pages, column 5, lines 43-55.

computes commands that are sent to the autopilot 14 and the autothrottle.[2] Thus, Leslie describes that the autothrottle command is ***not*** sent to the autopilot 14, and further does not teach or suggest that the autothrottle command is sent over a dedicated communication link. Accordingly, Leslie also does not teach or suggest "a dedicated communication link configured to transmit the automatic pilot instructions from the navigation computer to the flight control computer."

Finally, Trikha describes a flight control system where autopilot 25 sends flight path change commands to flight computer 26 over a data bus 22.[3] As data bus 22 is not a dedicated communication link, Trikha also does not teach or suggest "a dedicated communication link" as recited in Claim 1.

As none of Pages, Leslie, and Trikha teach or suggest "a dedicated communication link" as recited in amended Claim 1, amended Claim 1 (and Claims 2-10 dependent therefrom) is patentable over Pages in view of Leslie and further in view of Trikha.

Claims 12 and 21 recite similar elements to Claim 1. Accordingly, Claims 12 and 21 (and Claims 13-20 and 22-29 dependent therefrom) are patentable over Pages in view of Leslie and further in view of Trikha for at least the reasons described above with respect to Claim 1.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-10 and 12-29 is earnestly solicited.

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[2]See Leslie, column 4, lines 14-32.
[3]See Trikha, column 3, lines 14-27 and Figure 1.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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